Problem B: Lincoln's Rail Puzzle

Mr. Lincoln has twelve sixteen-foot rails, which he'll use to enclose a certain area of land. However, he's unsure about how to arrange them. If he places the rails in the shape of a square (with 3 rails per side), for example, he would be able to enclose an area of 2304 square feet.

The boy talking to Mr. Lincoln tells him that he could enclose a larger area than that. Just how much land can be enclosed by the dozen rails?

Lincoln explains his problem to the boy

Given the number of rails that Mr. Lincoln has, and the length of each rail, calculate the maximum area of land that can be enclosed by the rails.

Input

Input starts with a positive integer **T**, that denotes the number of test cases.

Each test case contains two integers **N** and **S**, denoting the number of rails and their length (in feet), respectively.

$T \le 20000$; $3 \le N \le 50$; $1 \le S \le 10^4$

Output

For each test case, print the case number, and then the maximum area that can be enclosed by the rails, in square feet. Print the answers as real numbers with exactly two digits after the decimal point.

Sample Input	Output for Sample Input
2 12 16 4 3	Case 1: 2866.22 Case 2: 9.00

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